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Injury risk in academy level rugby league match play: a single season prospective cohort study

Dr. Jason Tee, Prof. Kevin Till and Prof. Ben Jones



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Rational

- The safety governing
- Currently, level rugby

the sport's
academy

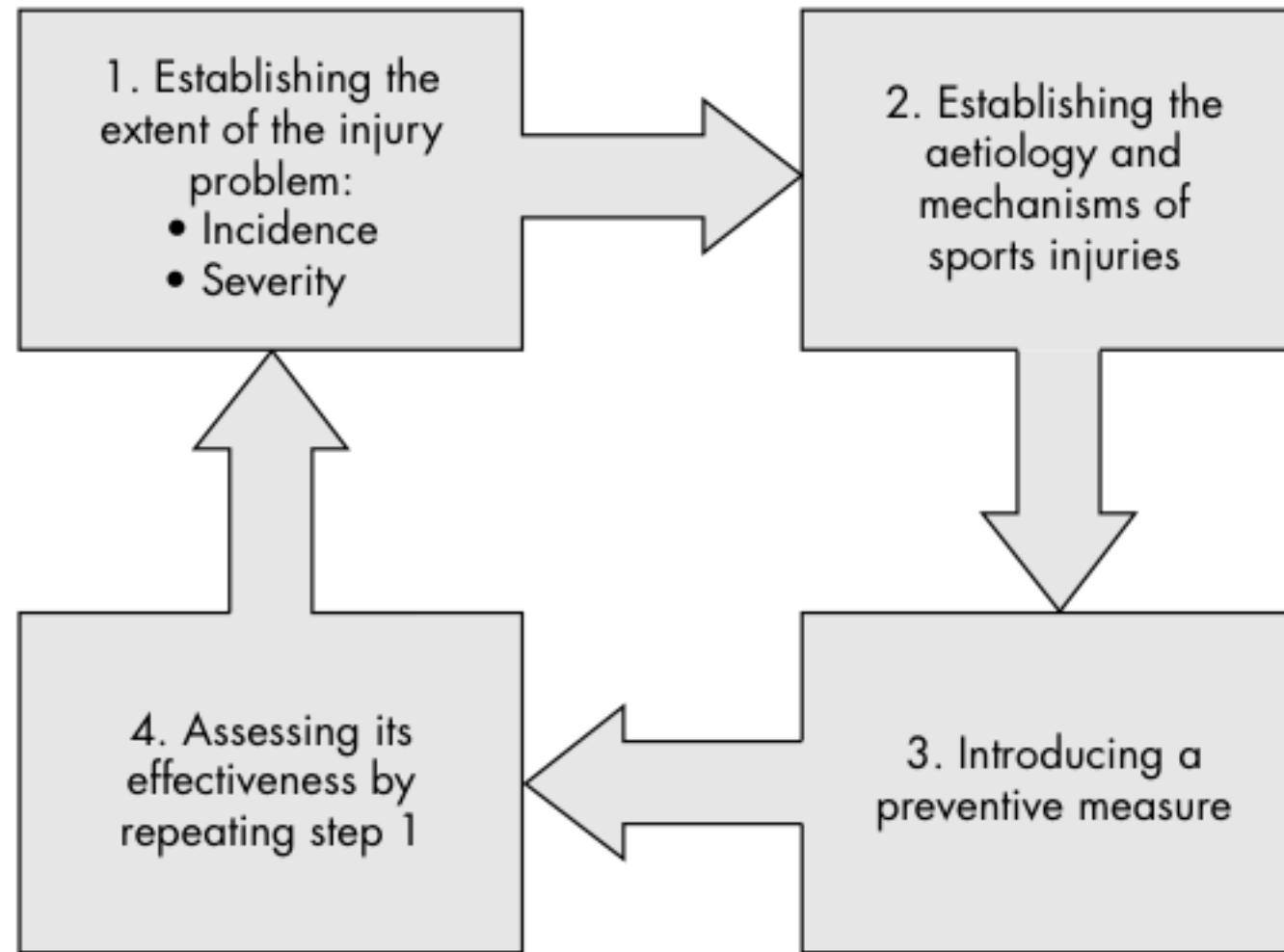


Figure 1 Four step sequence of injury prevention research.

Methods

Data collection

- Team physiotherapists from three academies collected injury data one season
- Physiotherapists were paid for services as “club injury surveillance officers”

Injury Definition

“Any physical complaint, that was sustained by a player during a rugby match or rugby training, that results in a player being unable to take a full part in future rugby training or match play for a period of >24 hours.”

Fuller et. al., (2007) IRB consensus statement. BJSM



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Participants

- 81 academy level rugby league players
- Age 17.8 ± 0.8 years
- Stature 108 ± 6
- Body mass 87.5 ± 11.3 kg
- Exposure 1022 hours of match play



Competition Demands

Season - February to August

20 matches in 27 weeks
(plus play off matches)

Matches

- High-speed running and sprinting
- short bouts of standing, walking and jogging
- Frequent collisions and wrestling bouts

Johnston et al., Sports Med 2014

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Injury outcomes

Injury incidence:

85 injuries/1000 h (95%CI 67-103)

Mean severity:

22 ± 19 days

Injury burden:

1870 days per 1000 h match play



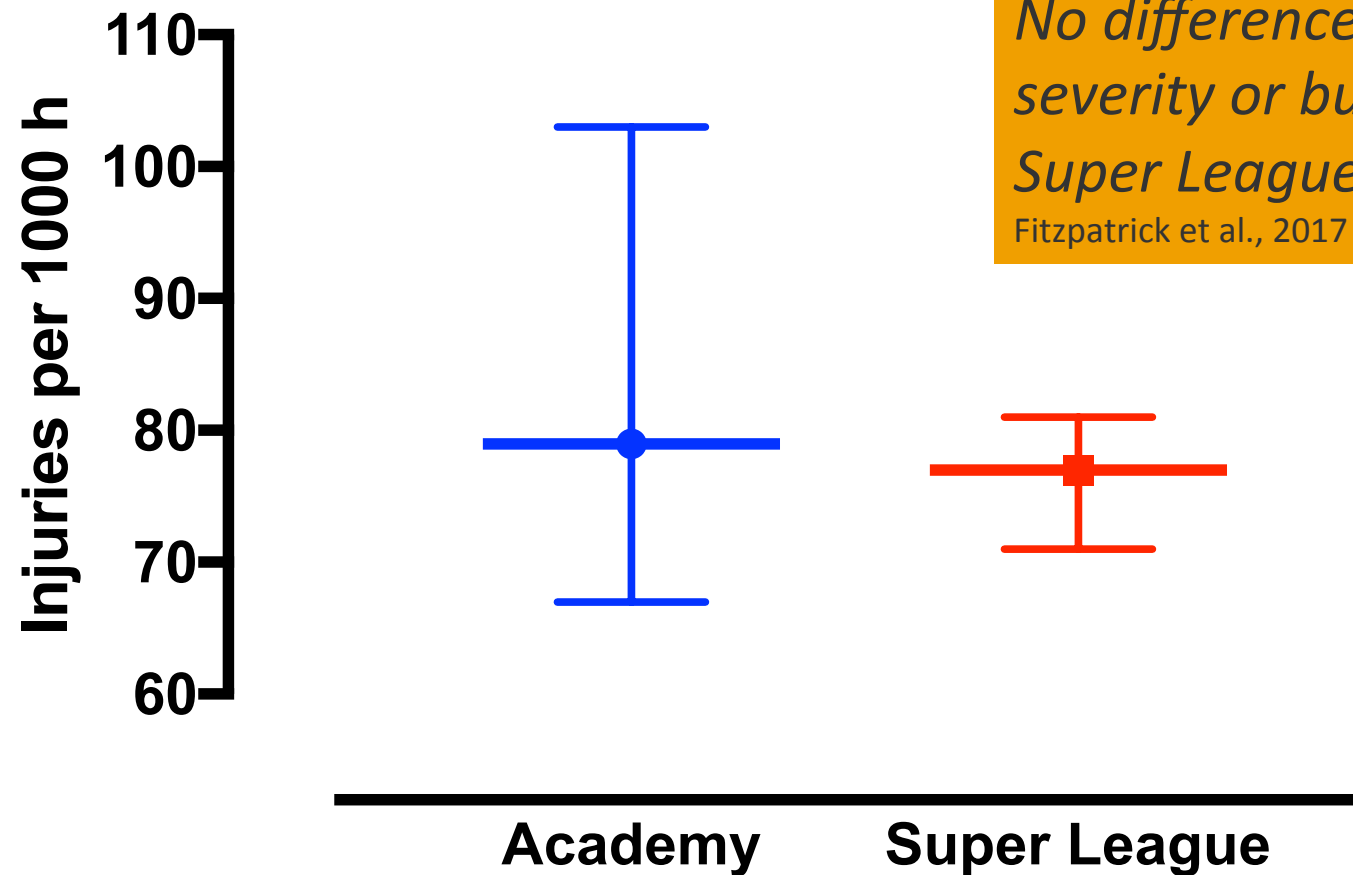
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Comparison with professional competition



No difference in incidence, severity or burden European Super League

Fitzpatrick et al., 2017 J Sci Med Sport



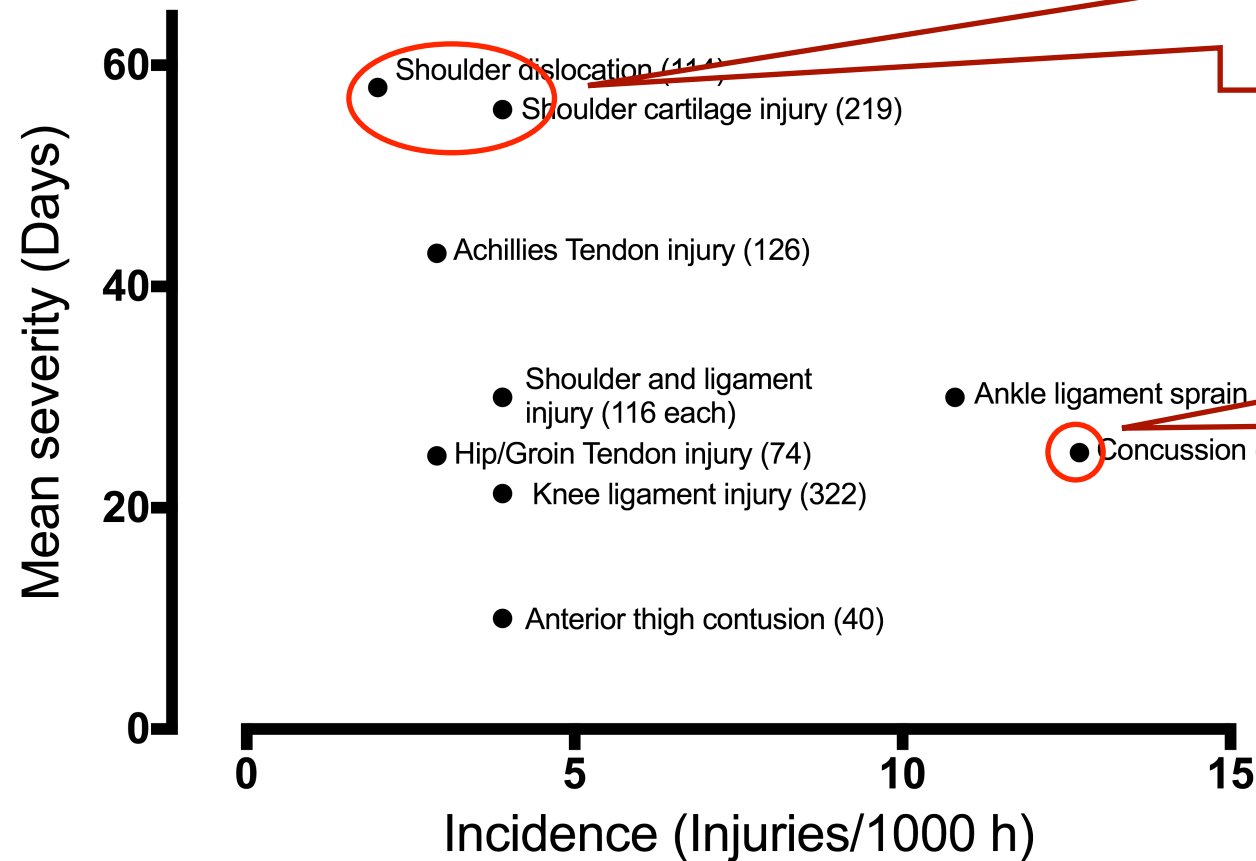
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Most costly injuries



Shoulder injuries account of 28% of total injury burden

Concussion occurring more frequently than professional rugby league



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Injury burden comparison



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Academy Rugby League

Concussion
316 days/1000 h

Shoulder
525 days/1000 h

Hamstring
29 days /1000 h

Knee
261 days /1000 h

Ankle
322 /1000 h

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European Super League

Concussion
55 days/1000 h

Shoulder
276 /1000 h

Hamstring
101 /1000 h

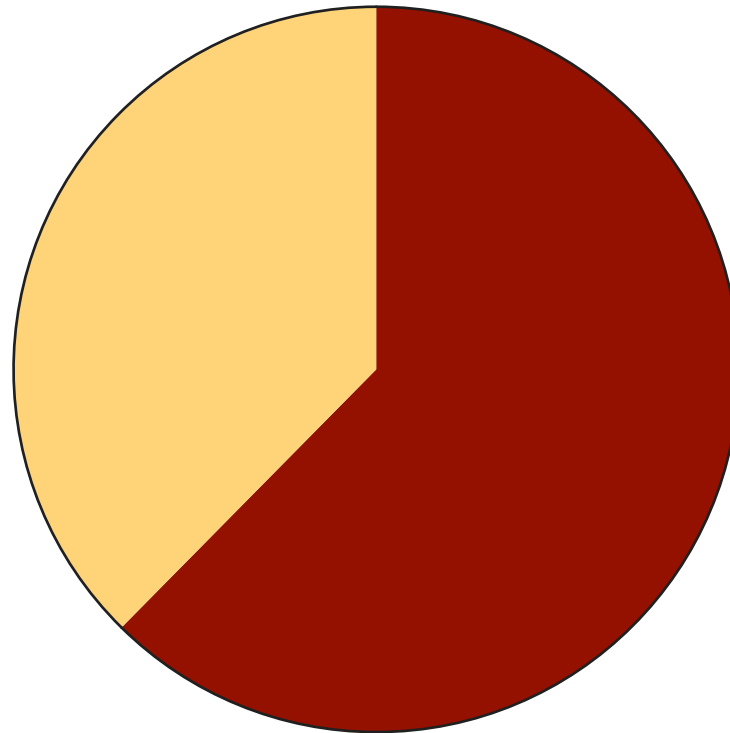
Knee
470 /1000 h

Ankle
256 /1000 h

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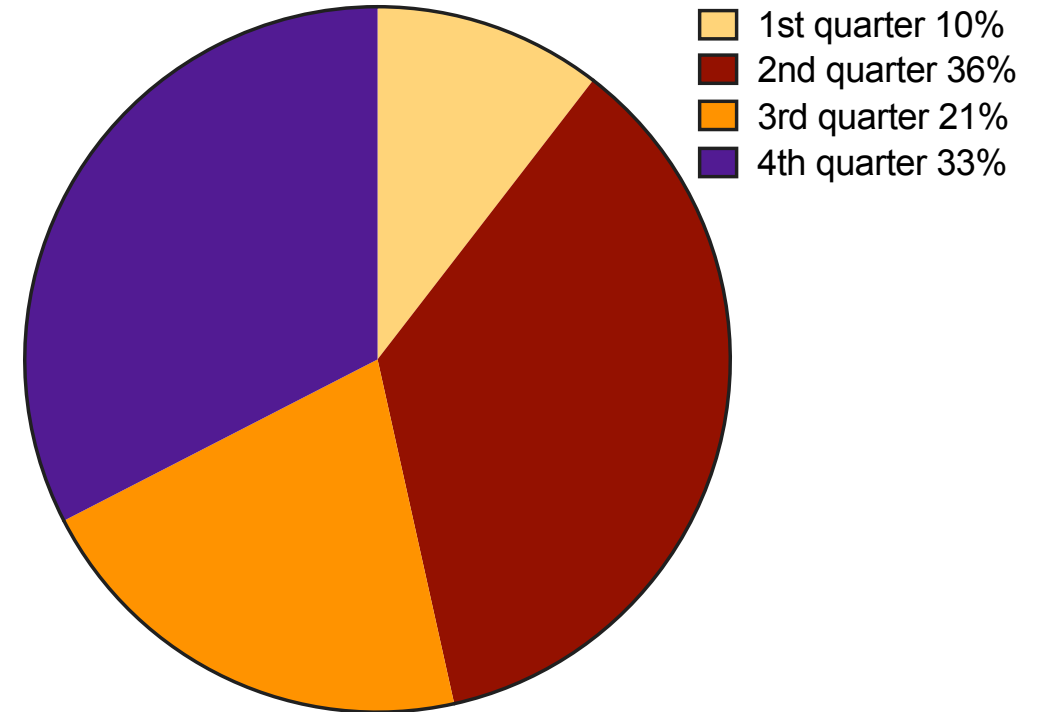
Injury risk factors

Backs vs. forwards



■ 63% Forwards
■ 37% Backs

Time in match



% of total injury burden



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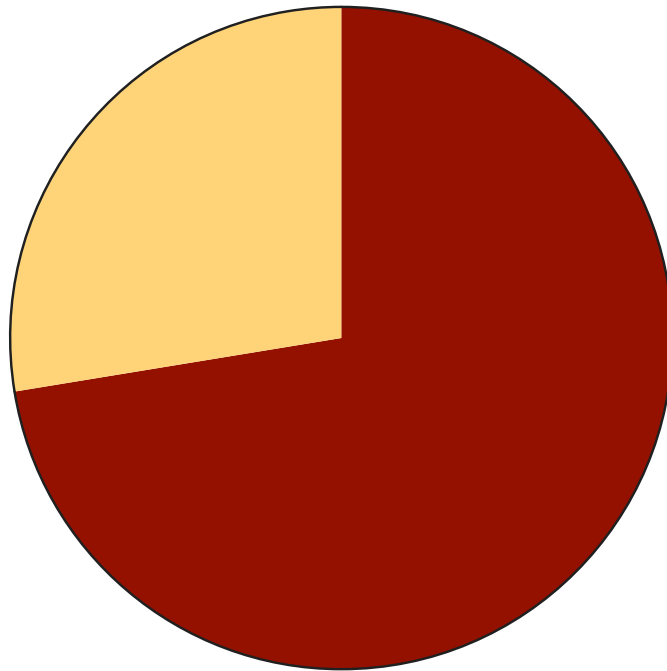
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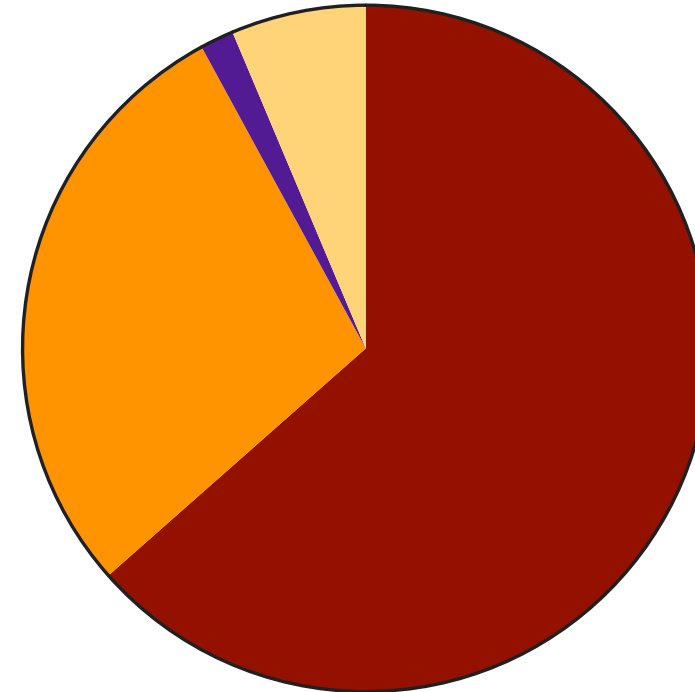
Injury risk factors

Contact vs. Non-contact



■ 72% Contact
■ 28% Non-contact

Contact event



■ 63% Tackled
■ 29% Tackler
■ 2% Collision
■ 6% Ruck area involvement

% of total injury burden



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Summary

- First research to document the injury risk of Academy level rugby league in the UK.
- The injury risk and burden is the same in RFL Academy rugby league and European Super League rugby competitions.
- Teams can expect to lose 32 player days to injury per match played.
- On average, teams will have 4 players (15% squad) unavailable for selection each week due to injury.
- Forwards are at a much higher injury risk than backs
- The majority of injuries are the result of tackle events with the tackled player injured more often than the tackler.

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Call to action!

What next?

Injury intervention focusing on

- Tackle technique
- Shoulder strength and stability
- Ankle strength and stability

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